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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/517,434	03/02/2000	JAHANGIR S. RASTEGAR	13285	4946

7590 03/27/2002

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EXAMINER

BURCH, MELODY M

ART UNIT	PAPER NUMBER
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3683

DATE MAILED: 03/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	09/517,434	RASTEGAR ET AL.	
	Examiner	Art Unit	
	Melody M. Burch	3613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-11, 22 and 45 is/are allowed.
- 6) ☒ Claim(s) 1-8, 12-21, 23-44 and 46-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 March 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The amendment filed 10/18/01 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: The paragraph beginning on line 6 of page 34 has been amended to read "The top plate 336 is attached to one of the base or payload and the bottom plate 332 is attached to the other of the base or payload; however, the drawings only show the bottom plate 332 being attached to the base and top plate 336 being attached to the payload. The alternative arrangement is not shown or nor was it previously disclosed.

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5, 8, 12, 13, 27-32, 35-38 rejected under 35 U.S.C. 102(b) as being anticipated by Macpherson.

Re: claims 1-4, 12, 13, 27-29, 35, 36. Macpherson shows in figure 2 a payload isolation system for isolating a payload such as a vehicle not shown from a base structure such as the ground upon which the payload is supported, the payload isolation

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system comprising: motion constraint means including links 38,36,26,16,42 for maintaining a parallel relationship between the payload and the base structure and support means 11 for providing vertical and/or lateral support of the payload relative to the base structure such that the transmission of vertical and/or lateral vibration between the payload and the base structure are suppressed.

Re: claims 5, 30, and 37. At least one of the parallelograms includes the linkages 68,65 and a portion of links 26,38 which is non-parallel to the linkage including links 30,38,42,36.

Re: claims 8, 9, 31, and 32. The use of scissor construction is disclosed in col. 6 lines 15-23.

4. Claims 1 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Sutcliffe et al. Sutcliffe et al. shows in figure 1 a payload isolation system for isolating a payload 10 from a base structure 12 upon which the payload is supported, the payload isolation system comprising: motion constraint means 18 for maintaining a parallel relationship between the payload and the base structure and support means 20,22,24 including actuators 22,24 for providing vertical and/or lateral support of the payload relative to the base structure such that the transmission of vertical and/or lateral vibration between the payload and the base structure are suppressed.

5. Claims 1 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Sutcliffe et al.

Re: claim 1. Sutcliffe et al. shows in figure 1 a payload isolation system for isolating a payload 10 from a base structure 12 upon which the payload is supported,

the payload isolation system comprising: motion constraint means 22,24 for maintaining a parallel relationship between the payload and the base structure and support means 20 for providing vertical and/or lateral support of the payload relative to the base structure such that the transmission of vertical and/or lateral vibration between the payload and the base structure are suppressed.

Re: claim 7. Sutcliffe et al. shows in figure 1 a damping means 18 for resisting relative displacement and or velocity between the payload and base structure.

6. Claims 1, 19-21, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Whelpley et al.

Re: claim 1. Whelpley et al. show in figure 1 a payload isolation system 10 for isolating a payload 14 from a base structure 12 upon which the payload is supported, the payload isolation system comprising: motion constraint means 86,88 for maintaining a parallel relationship between the payload and the base structure and support means 44,87 for providing vertical and/or lateral support of the payload relative to the base structure such that the transmission of vertical and/or lateral vibration between the payload and the base structure are suppressed.

Re: claims 19-21 and 23. Whelpley et al. shows in figure 1 a payload adjustment means 20,16,30 comprising a support adjustment means 16, a feedback means 20,30, a deformable mat 86 having at least one internal tubular internal cavity 88, a gas source 18.

7. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Marshall. Marshall shows in figure 2 a payload isolation system for isolating a payload 36 from a

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base structure 96 upon which the payload is supported, the payload isolation system comprising: motion constraint means 100 for maintaining a parallel relationship between the payload and the base structure and support means 28 for providing vertical and/or lateral support of the payload relative to the base structure such that the transmission of vertical and/or lateral vibration between the payload and the base structure are suppressed.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sutcliffe et al. in view of Nathan. Nathan teaches in figures 1-3 the use of a resilient support means comprising a deformable mat having at least one internal tubular cavity 5 such that the deformable mat exhibits nonlinear elastic characteristics as shown in figure 5. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the resilient support of Sutcliffe et al. with that of Nathan in order to provide a greater range of deformation under certain loads.

10. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sutcliffe et al. in view of Goldbach et al. Goldbach et al. shows in figure 2 a support means 1 comprising a bottom plate or bottom of two-part casing 3, a top plate or top of two-part

casing 3, the support means 1 further comprising a compressible material 10 disposed in a space between the top and bottom plates. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the resilient support of Sutcliffe et al. with a compressible material having top and bottom plates, as taught by Goldbach et al. in order to provide rigid protection of the outer surfaces of the compressible material to prevent damage.

11. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sutcliffe et al. in view of Goldbach et al. as applied to claim 17 above, and further in view of Ganser. Ganser teaches in the figure an elastomeric tubular element 6 coiled in a helical manner which may be extruded as taught in col. 1 lines 9-11. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the elastomeric element of Sutcliffe et al., as modified, to have been extruded and coiled in a helical manner as taught by Ganser, in order to provide a simple means of forming the element depending on manufacturing step requirements and in order to provide large amounts of elastomeric element in a confined space.

12. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Whepley et al. in view of Ivers et al. Whepley et al. describes the invention substantially as set forth above including a distance signal generation means and a transducer, but does not disclose the remaining components of the feedback means. Ivers et al. teaches in figure 6 the use of a first low pass filter 94, a summer 92, a gain means 98, and a second low pass filter 96. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the feedback means of Whepley et

al. with the remaining components of the feedback means, as taught by Ivers et al., in order to provide an adjustably variable isolation system.

13. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sutcliffe et al. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized the payload isolation system of Sutcliffe in the rocket environment in order to isolate vibrating rocket components. It is inherent that the effective weight (mg) of the payload will vary with time since the value of g will change during the rocket course.

14. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall in view of Nathan. Nathan teaches in figures 1-3 the use of a resilient support means comprising a deformable mat having at least one internal tubular cavity 5 such that the deformable mat exhibits nonlinear elastic characteristics as shown in figure 5. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the resilient support of Whelpley et al. with a deformable member having nonlinear characteristics, as taught by Nathan, in order to provide specific deformation characteristics under certain load conditions.

15. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schubert in view of Nathan. Schubert shows in figure 1 a support apparatus comprising a deformable member 30, a support adjustment means 10 for supporting the effective payload 12 weight and effective payload adjustment means 24 for adjusting the level of support of the support means in response to a varying effective payload weight. Nathan teaches in figures 1-3 the use of a resilient support means comprising a deformable mat

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having at least one internal tubular cavity 5 such that the deformable mat exhibits nonlinear elastic characteristics as shown in figure 5. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the resilient support of Whelpley et al. with a deformable member having nonlinear characteristics, as taught by Nathan, in order to provide specific deformation characteristics under certain load conditions.

16. Claims 39-41 and 46-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whelpley et al. in view of Nathan. Whelpley et al. show in figure 1 a support apparatus comprising a deformable member 86, an effective payload adjustment means 44,87 and a support adjustment means 16, 20, 30, but does not disclose that the deformable member exhibits nonlinear elastic characteristics. Nathan teaches in figures 1-3 the use of a resilient support means comprising a deformable mat having at least one internal tubular cavity 5 such that the deformable mat exhibits nonlinear elastic characteristics as shown in figure 5. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the resilient support of Whelpley et al. with a deformable member having nonlinear characteristics, as taught by Nathan, in order to provide specific deformation characteristics under certain load conditions.

17. Claims 42 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Whelpley et al. in view of Nathan as applied to claim 40 above, and further in view of Marshall. Marshall teaches in the figure on the front of the patent a plurality of internal tubular cavities shown inside the top and bottom elements 28. It would have

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been obvious to one of ordinary skill in the art at the time the invention was made to have modified the deformable member of Whelpley et al., as modified, to include a plurality of internal tubular cavities, as taught by Marshall, in order to increase the filling capacity of the deformable member.

18. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schubert in view of Nathan as applied to claim 39 above, and further in view of Goldbach et al. Goldbach et al. shows in figure 2 a support means 1 comprising a bottom plate or bottom of two-part casing 3, a top plate or top of two-part casing 3, the support means 1 further comprising a compressible material 10 disposed in a space between the top and bottom plates. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the resilient support of Sutcliffe et al. with a compressible material having top and bottom plates, as taught by Goldbach et al. in order to provide rigid protection of the outer surfaces of the compressible material to prevent damage.

19. Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over Whelpley et al. in view of Nathan, as applied to claim 46 above, and further in view of Ivers et al. Whelpley et al. describes the invention substantially as set forth above including a distance signal generation means and a transducer, but does not disclose the remaining components of the feedback means. Ivers et al. teaches in figure 6 the use of a first low pass filter 94, a summer 92, a gain means 98, and a second low pass filter 96. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the feedback means of Whelpley et al. with the

remaining components of the feedback means, as taught by Ivers et al., in order to provide an adjustably variable isolation system.

Allowable Subject Matter

20. Claims 9-11, 22, and 45 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

21. Applicant's arguments filed 10/18/01 have been fully considered but they are not persuasive. Applicant argues that the Sutcliffe, Whelpley, and Marshall references fail to teach maintaining a payload and base in a parallel relationship. Examiner maintains that the references teach maintaining a payload and base in a parallel relationship at a given instant as shown in the corresponding figures. Applicant also argues that component 11 of MacPherson is not a support means. Examiner maintains that component 11 supports or serves as a foundation particularly providing vertical support along with links 36,38,30. Applicant also argues that the Goldbach et al. reference does not teach first and second plates that are movable relative to each other. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Examiner notes that Sutcliffe et al. in view of Goldbach et al. teach the claim limitation and that Goldbach et al. is used solely for the teaching of the top and bottom plates used to

reinforce the top and bottom surfaces of a resilient member. Finally, Applicant argues that Sutcliffe does not discuss the change in effective weight of the payload. Examiner simply maintains that it would have been obvious to one of ordinary skill to have utilized *the payload isolation system* of Sutcliffe in a rocket environment to isolate vibrations occurring between rocket components and that the use of such a system in a rocket environment would inherently result in the payload having a varying weight as the value of gravity changes during the course of rocket travel.

Conclusion

22. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 703-306-4618. The examiner can normally be reached on Monday-Friday (7:30 AM-4:00 PM).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dickson can be reached on 703-308-2089. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

24. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

mmb 3/25/02
mmb
March 25, 2002


PAUL N. DICKSON
SUPERVISORY PATENT EXAMINER
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